Safety instructions
VEGAWELL WL51/52.A********C/D*
VEGAWELL WELL72.A*******C/D*

TÜV 06 ATEX 553449 X

II 1G, II 2G Ex ia IIC T6 Ga, Gb

CE 0044

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VEGA

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Please note:

These safety instructions are part of the operating instructions:

- 32465 - VEGAWELL 51 - 4 … 20 mA
- 32468 - VEGAWELL 51 - 4 … 20 mA/HART - PT 100 - four-wire
- 27501 - VEGAWELL 72 - 4 … 20 mA
- 27630 - VEGAWELL 72 - 4 … 20 mA/HART
- 42816 - EC type approval certificate TÜV 06 ATEX 553449 X

42240-EN-131108

DE	Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen, verfügbar in den Sprachen deutsch, englisch, französisch und spanisch.
EN	Safety instructions for the use in hazardous areas are available in German, English, French and Spanish language.
FR	Consignes de sécurité pour l'utilisation en atmosphère explosible, disponibles dans les langues allemande, anglaise, française et espagnole.
ES	Instrucciones de seguridad para el empleo en áreas con riesgo de explosión, disponible en los siguientes idiomas alemán, ingles, francés y español.
CZ	Pokud nastanou potíže při čtení bezpečnostních upozornění v otištěných jazycích, poskytneme. Vám na základě žádosti k dispozici kopii v jazyce Vaší země.
DA	Hvis De har svært ved at forstå sikkerhedsforskrifterne på de trykte sprog, kan. De få en kopi på Deres sprog, hvis De ønsker det.
EL	Εάν δυσκολεύεστε να διαβάσετε τις υποδείξεις ασφαλείας στις γλώσσες που ήδη έχουν τυπωθεί, τότε σε περίπτωση ζήτησης μπορούμε να θέσουμε στη διάθεσή σας ένα αντίγραφο αυτών στη γλώσσα της χώρας σας.
ET	Kui teil on raskusi trükitud keeltes ohutusnõuete lugemisega, siis saadame me teie järelepärimise peale nende koopia teie riigi keeles.
FI	Laitteen mukana on erikielisiä turvallisuusohjeita. Voit tilata meiltä äidinkieliset turvallisuusohjeet, jos et selviä mukana olevilla kielillä.
HU	Ha a biztonági előírásokat a kinyomtatott nyelveken nem tudja megfelelően elolvasni, akkor lépjen velünk kapcsolatba: azonnal a rendelkezésére bocsátunk egy példányt az Ön országában használt nyelven.
IT	Se le Normative di sicurezza sono stampate in una lingua di difficile comprensione, potete richiederne una copia nella lingua del vostro paese.
LT	Jei Jums sunku suprasti saugos nuorodų tekstą pateiktomis kalbomis, kreipkitės į mus ir mes Jums duosime kopiją Jūsų šalies kalba.
LV	Ja Jums ir problēmas drošības noteikumus lasīt nodrukātajās valodās, tad mēs Jums sniegsim pēc pieprasījuma kopiju Jūsu valsts valodā.
MT	F'kaz li jkollok xi diffikulta` biex tifhem listruzzjonijiet ta' sigurta`kif ipprovduti, infurmana u ahna nibghatulek kopja billingwa tieghek.
NL	Als u moeilijkheden mocht hebben met het lezen van de veiligheidsinstructies in de afgedrukte talen, sturen wij u op aanvraag graag een kopie toe in uw eigen taal.
PL	W przypadku trudności odczytania przepisów bezpieczeństwa pracy w wydrukowanych językach, chętnie udostępnimy Państwu kopię w języku obowiązującym w danym kraju.
PT	Caso tenha dificuldade de ler as instruções de segurança no idioma, no elas foram impressas, poderá solicitar junto a nós uma cópia em seu idioma.
SK	Pokiaľ nastanú problémy pri čítaní bezpečnostných pokynov vo vydaných jazykoch, poskytneme Vám na základe žiadosti k dispozícii kópiu v jazyku Vašej krajiny.
SL	Kadar se pojavijo težave pri branju varnostnih navodil v izdanih jezikih, vam bomo na osnovi zahtevka dali na razpolago kopijo v jeziku vaše države.
SV	Om du har problem att läsa säkerhetsanvisningarna på de här tryckta språken, ställer vi gärna på begäran en kopia på ditt språk till förfogande.

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1 Area of applicability

This safety instructions are valid for the suspension pressure transmitter VEGAWELL 51, 52 and VEGAWELL 72 of series WL51/52.A********C/D* and series WELL72.A*******C/D* with integrated electronics module WL50H or WL50 according to EC type approval certificate TÜV 06 ATEX 553449 X with the 3. supplement (certificate number on the type label) and for all instruments with the number of the safety instruction (42240) on the type label.

2 General information

The WL51/52.A********D* or WELL72.A*******D* with integrated electronics module WL50H and WL51/52.A********C* or WELL72.A*******C* with integrated electronics module WL50 are used for pressure and level measurement also in hazardous areas. The WL51/52.A********D* or WELL72.A*******D* with integrated electronics module WL50H is also used for detection of the process temperature by means of a PT 100 four-wire measurement. The measured products can be also combustible liquids, gases, fog or vapour.

The WL51/52.A********C/D*, WELL72.A*******C/D* is suitable for use in hazardous atmospheres of all combustible materials of explosion group IIA, IIB and IIC for applications requiring instruments of category 1G or 2G.

If the WL51/52.A********C/D*, WELL72.A*******C/D* is installed and operated in hazardous areas, the general Ex mounting instructions EN 60079-14 and these safety instructions must be observed.

The operating instructions as well as the installation regulations and standards that apply for explosion protection of electrical systems must always be observed.

The installation of explosion-endangered systems must always be carried out by qualified personnel.

Category 1G instruments
The WL51/52.A********C/D*, WELL72.A*******C/D* is installed in hazardous areas requiring a 1G instrument.

Category 2G instruments
The WL51/52.A********C/D*, WELL72.A*******C/D* is installed in hazardous areas requiring instruments of category 2G.

3 Technical data

Electrical data
The WL51/52.A********D* and WELL72.A*******D* with integrated electronics module WL50H and the WL51/52.A********C* or WELL 72.A*******C* with integrated electronics module WL50 has intrinsically safe circuits. These intrinsically safe circuits are connected directly to the fix-mounted connection cables.

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Version WL51/52.A******C*, WELL72.A*******C***

Power supply and signal circuit (wires: brown [+], blue [-] resp. screwed terminals 1 and 2)

In ignition protection type intrinsic safety Ex ia IIC

For connection to a certified intrinsically safe circuit with linear characteristics.

Maximum values:

- U_i = 30 V
- I_i = 131 mA
- P_i = 983 mW
- L_i = 51 µH
- $C_{i\ wire/wire}$ = 2.4 nF
- $C_{i\ wire/screen}$ = 1.5 nF

With regard to the fix-mounted connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account in addition to the above mentioned C_i- and L_i values.

- L_i' = 0.6 µH/m
- $C_{i\ wire/wire}'$ = 133 pF/m
- $C_{i\ wire/screen}'$ = 215 pF/m

Only version WL51/52.A******D*, WELL72.A*******D***

Power supply and signal circuit (wires: brown [+], blue [-] resp. screwed terminals 1 and 2)

In ignition protection type intrinsic safety Ex ia IIC

For connection to a certified intrinsically safe circuit with linear characteristics.

Maximum values:

- U_i = 30 V
- I_i = 131 mA
- P_i = 983 mW
- L_i = 51 µH
- $C_{i\ wire/wire}$ = 2.4 nF
- $C_{i\ wire/screen}$ = 1.5 nF

With regard to the fix-mounted connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account:

- L_i' = 0.6 µH/m
- $C_{i\ wire/wire}'$ = 133 pF/m
- $C_{i\ wire/screen}'$ = 215 pF/m

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Temperature measuring circuit (wires: white/yellow, red/black resp. screwed terminals 3 … 6)	In ignition protection type intrinsic safety Ex ia IIC For connection to a certified, intrinsically safe circuit. Maximum values: ● U_i = 30 V ● P_i = 80 mW ● L_i and C_i negligibly small With regard to the fix-mounted connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account: ● L_i' = 0.6 µH/m ● $C_{i\ wire/wire}'$ = 188 pF/m ● $C_{i\ wire/screen}'$ = 555 pF/m

The metallic parts of the WL51/52.A********C/D*, WELL72.A*******C/D* are electrically connected with the screening of the fix-mounted connection cable.

The intrinsically safe signal and supply circuit and the temperature measuring circuit are galvanically separated. In addition, the intrinsically safe signal and supply circuit is electrically separated from parts which can be grounded.

For applications requiring instruments of category 1G, the intrinsically safe power supply and signal circuit must be in conformity with category ia.

For applications requiring instruments of category 1G the WL51/52.A********C/D*, WELL72.A*******C/D* is preferably connected to appropriate instruments with electrically isolated, intrinsically safe circuits.

The cable screens or ground terminals must be connected with the potential equalisation system in the Ex area.

4 Application conditions

Permissible ambient temperatures

For use as category 1G instrument

Temperature class	T6	T5, T4, T3, T2, T1
Permissible ambient temperature on the sensor with electronics	-20 … +50 °C	-20 … +60 °C

For applications requiring category 1G instruments the process pressure of the media must be between 0.8 … 1.1 bar. EN 1127-1 paragr. 6.4.2 is taken into account with the indicated permissible ambient temperatures on the sensor with the electronics.

The application conditions during operation without hazardous mixtures can be found in the information provided by the manufacturer, e.g. the operating instructions manual.

For applications as category 2G instrument, with metal housing

Temperature class	T6	T5, T4, T3, T2, T1
Permissible ambient temperature on the sensor with electronics	-40 … +66 °C	-40 … +80 °C

For applications as category 2G instrument, with plastic housing

Temperature class	T6	T5, T4, T3, T2, T1
Permissible ambient temperature on the sensor with electronics	-20 … +66 °C	-20 … +80 °C

The application conditions during operation without hazardous mixtures can be found in the information provided by the manufacturer, e.g. the operating instructions manual.

5 Protection against static electricity

The WL51/52.A********C/D*, WELL72.A*******C/D* in the versions with electrostatically chargeable plastic parts, such as e.g. plastic housing, plastic coated pressure transmitter housing or electrically non conductive connection cable, are provided with a caution label referring to the safety measures that should be taken in case of electrostatic charges during operation.

Caution: Plastic parts! Danger of electrostatic charging!

- Avoid friction
- No dry cleaning
- Do not mount in areas with flowing, non-conductive products

6 Impact and friction sparks

The WL51/52.A********C/D*, WELL72.A*******C/D* in titanium versions must be mounted in such a way that sparks from impact and friction between titanium and steel (except stainless steel, if the presence of rust particles can be excluded) cannot occur.

7 Use of an overvoltage arrester

When used as category 1G instrument, the WL51/52.A********C/D*, WELL72.A*******C/D* has to be connected to a suitable overvoltage arrester according to EN 60079-14, e.g. the certified type B62-36G from VEGA (TÜV 07 ATEX 553276) to protect against overvoltage surges.

8 Installation/mounting

The WL51/52.A********C/D*, WELL72.A*******C/D* has to be mounted in such a way that it is adequately protected from touching the vessel wall, taking vessel installations and flow conditions into account. This applies especially to cable lengths over 3 m.

9 Material resistance

The WL51/52.A********C/D*, WELL72.A*******C/D* must only be used in media against which the materials of the wetted parts are sufficiently resistant.

10 Grounding

The WL51/52.A********C/D*, WELL72.A*******C/D* must be grounded electrostatically (transfer resistance ≤ 1 MΩ), e.g. via the screening of the connection cable. The metallic parts of the pressure transmitters are electrically connected with the screening of the fix-mounted connection cable.

11 Installation/mounting of the screw plug

The WL51/52.A********C/D*, WELL72.A*******C/D* in the mounting version with locking screw, used as a zone-separating wall element to areas requiring category 1G instruments, have to be mounted in such a way that the protection class IP 67 on the locking screw is maintained.

12 Installation/mounting of the terminal housings

The terminal housing must be earthed via the internal or external ground terminal. The cable ends that are connected to the screwed terminals in the terminal housing must always be provided with fully insulated cable end sleeves.

Shortening the connection cable

If necessary, the fix-mounted connection cable on the WL51/52.A*GV/GK*****C/D* resp. WELL72.A**GV/GK***C/D* can be shortened by the user. The user must take note of the appropriate operating instructions manuals. The screening of the fix-mounted connection cable must be connected to the internal ground terminal. The screening must be insulated.

When using the terminal housing as zone-separating wall element to areas requiring instruments of category 1G, please make sure that the protection class IP 67 on the cable entry of the connection cable of the pressure transmitter is maintained. For that purpose the cable entry on the terminal housing has to be tightened to block.

Connection cable between the terminal housing and the processing units

If the WL51/52.A*GV/GK*****D* resp. WELL72.A**GV/GK***D* with terminal housing are provided with a connection cable (between the terminal housing and the processing units) other than that supplied by VEGA, please make sure that the thickness of the insulation of the individual wires is at least 0.25 mm and the insulation voltage between the individual wires is at least 500 V AC.

Printing date:

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.
Subject to change without prior notice

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